REMARKS

Claims 1-11 are now pending in this application. Claim 4 is withdrawn. Claims 1-3 and 5-9 are rejected. New claims 10 and 11 are added. Claims 1-9 are amended herein to clarify the invention, to express the invention in alternative wording, to broaden language as deemed appropriate and to address matters of form unrelated to substantive patentability issues.

The applicants and applicants' attorney appreciate the Examiner's granting of the telephone interview conducted on June 10, 2009, and extend their thanks to the Examiner for his time and consideration.

An Interview Summary has been received by applicants. While applicants believe the Examiner's outline of the substance of the interview to be accurate with regard to the portion to which it references, applicants wish to note further discussions not entirely reflective of the course of the full interview.

In particular, the Interview Summary reflects discussions relating only to the portion thereof directed to claim 5. It is believed to be the Examiner's stated position that, without a showing that electrochemical charging by NaOH has a different result from charging using, for example, sulfuric acid as taught by Suh et al., it was the Examiner's assumption that hydrogen would be distributed homogeneously in the amorphous short-range order structure. The possibility of changing the "and/or" after this recitation in claim 5 to "and" was discussed during the interview. Claim 5 is amended accordingly.

While not indicated in the Interview Summary, the patentability of independent claim 1 was also discussed, as specifically directed to improving ductility, as distinguished from a demonstrated increase in brittleness, as is clearly the exclusive observation of the studies disclosed in the Suh reference. It was the indicated position of the Examiner that, the method, as presently claimed, is inherent in the disclosure of the Suh reference, and that no patentable weight is given to the intended result of the preamble alone, since the claimed methodology which follows the preamble is already taught by Suh et al.. In particular, the Examiner referred to the disclosure of the first paragraph of section 4.3 in the cited Suh et al. reference (Implications for hydrogen embrittlement) which indicates that the "[t]he absence of a hydride phase in the present study and the seemingly innocuous effects of solute hydrogen in other hydride-forming compositions suggest that new mechanisms of embrittlement may be operative in the amorphous phase." The Examiner concluded that the reference stands for the premise that increase of brittleness in an amorphous metal is not due to hydride formation, as it is in hydride-forming crystalline metals, such as Zr, Ti, Nb and V, and as such, the claim recitation of claim 1, which requires "a concentration below that at which brittle hydrides are formed" reads on the disclosure of Suh et al.. Applicants counsel, therefore, suggested in the interview, that applicants would consider revising the claim to be characteristically distinguished over the Suh et al. reference, rather than being distinguished on the basis of underlying chemical mechanisms believed to be present and attributed to the

change in such material characteristics. Claim 1 is, therefore, amended to define the range of an added amount of hydrogen, as specifically providing increased ductility, which physical characteristic is considered unique to the claimed invention, on the basis of the physically measurable effect it has on the resultant ductility of the molded object, rather than on what underlying chemical mechanism is believed to cause the effect on a molecular level.

Applicants herein traverse and respectfully request reconsideration of the rejection of the claims cited in the above-referenced Office Action.

Claims 1-3 and 5-9 are rejected as indefinite under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter of the invention as a result of an informality stated in the Office Action. The claims are amended to remove or correct the informality noted in the Office Action. In particular, as discussed during the above referenced interview, and as agreed to by the Examiner, the more appropriate terminology of "base alloys" is substituted for the objected to terminology of "basic...alloy." Therefore, reconsideration of the rejection of claims 1-3 and 5-9 and their allowance are earnestly requested.

Claims 1-3 and 5 are rejected under 35 U.S.C. § 102(b) as being anticipated by Suh et al. (The effects of hydrogen on viscoelastic relaxation in Zr-Ti-Ni-Cu-Be-bulk metallic glasses: implications for hydrogen embrittlement) . Applicants herein respectfully traverse these rejections. "Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention,

arranged as in the claim." ***Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.***, 221 USPQ 481, 485 (Fed. Cir. 1984) (emphasis added). It is respectfully submitted that the cited reference is deficient with regard to the following.

As amended, independent claim now recites, in pertinent part, the following:

> introducing an amount of hydrogen into the molded object at a concentration below that at which an increase in brittleness of the molded object is observed above an original plastic deformability present before introduction of said amount of hydrogen

As noted above, and in applicants' prior filed amendment, as well as, at least in part, during the course of the above referenced interview, such claimed subject matter is neither the objective, nor the observed results, of the investigations of Suh et al.. It is merely stated in the reference that hydrogen is introduced into an alloy composition. The noted result is that the alloy becomes more brittle as the proportion of hydrogen in it increases. It is respectfully submitted that this observation was also the basic state of knowledge of the prior art, and the professional world, as is also stated in the background of the present disclosure.

It is respectfully submitted that one of ordinary skill in the art, seeking a metallic glass material with improved plastic properties would, under no circumstances, incorporate hydrogen, since it was, at the time of the invention, well known that an increase in the brittleness of the material would be expected from such a procedure, as borne out by the published results of Suh et al., as is recited according to independent claim 1.

However, according to the presently claimed invention, surprisingly, for certain base alloys (eg., of the type as claimed), a slight proportion of hydrogen introduced into the material leads to an increase in the ductility and, with that, to an increase in the plastic deformability of the material. This unexpected result is to be attributed (particularly as recited in claim 5), at least in part to the fact that hydrogen is distributed homogeneously in the molded object and ductile alloying components are present in the amorphous short-range order in the form of hydrogen-induced local accumulations of ductile alloying components, and/or in the form of hydrogen-induced precipitations of ductile nanocrystalline phases with the exclusion of brittle hydrides.

There is no mention of the these contingencies by Suh et al. Indeed, it is believed impossible for such ductile regions to be contained in the material, due to the very fact that the Suh et al. material is brittle, and becomes more brittle as more hydrogen is introduced.

In view of the above, it is respectfully submitted that claims 1-3 and 5 particularly describe and distinctly claim elements not disclosed in the cited reference. Therefore, reconsideration of the rejections of claims 1-3 and 5 and their allowance are respectfully requested.

Claims 6-9 are rejected as obvious over Suh et al. under 35 U.S.C. §103(a). The applicants herein respectfully traverse this rejection.

It is respectfully submitted that the Suh et al. reference cannot render the rejected claims obvious because the reference does not provide the teaching noted above with respect to the anticipation rejection of parent claim 5 (claim 1). Thus, the reference fails to teach or suggest all the claim limitations, as properly required for establishing a *prima facie* case of obviousness. Therefore, reconsideration of the rejection of claims 6-9 and their allowance are respectfully requested.

Dependent claims 10 and 11 are added and are submitted as patentable over the cited art of record and are submitted as patentable based on the subject matter cited therein in addition to the subject matter of their respective base claims. Furthermore, new claims 10 and 11 are submitted as patentable, as they recite that "said metallic glass is substantially free of beryllium," a feature not believed taught or suggested in any of the cited prior art references.

Applicants respectfully request a three (3) month extension of time for responding to the Office Action. Please charge the fee of $555 for the extension of time to Deposit Account No. 10-1250.

The USPTO is hereby authorized to charge any fee(s) or fee(s) deficiency or credit any excess payment to Deposit Account No. 10-1250.

In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited.

Respectfully submitted,
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